

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Robert Paul Black** Confirmation No.: **6283**
Serial No.: **09/308,515** Group Art Unit: **1771**
Filing Date: **August 11, 1999** Examiner: **Jennifer A. Boyd**
For: **Filling Comprising A Polyester Fibre**

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

APPELLANT'S AMENDED BRIEF PURSUANT TO 37 C.F.R. § 41.37

This brief is being filed in response to the Notification of Non-Compliant Appeal Brief dated December 4, 2006.

The brief is support of Appellant's appeal from the rejections of claims 1, 2 and 4-12 dated July 28, 2005. A Notice of Appeal was filed on January 26, 2006.

1. REAL PARTY IN INTEREST

Trendsetter Home Furnishings Limited by virtue of the assignment recorded December 10, 2003, at Reel 014764, Frame 0795.

2. RELATED APPEALS AND INTERFERENCES

None.

3. STATUS OF CLAIMS

Claim 1	Rejected and On Appeal
Claim 2	Rejected and On Appeal
Claim 3	Canceled
Claim 4	Rejected and On Appeal
Claim 5	Rejected and On Appeal
Claim 6	Rejected and On Appeal
Claim 7	Rejected and On Appeal
Claim 8	Rejected and On Appeal
Claim 9	Rejected and On Appeal
Claim 10	Rejected and On Appeal
Claim 11	Rejected and On Appeal
Claim 12	Rejected and On Appeal
Claims 13–17	Canceled

4. STATUS OF AMENDMENTS

Appellant filed no amendment in response to the final rejection dated July, 26, 2005.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The claims recite insulating materials comprising a non-woven blend of polyester filling fiber and lyocell fiber. *See Appellant's* claims 1, 11, and 12. As a matter of background, polyester fiber is a good insulator, but not particularly breathable. *Appellant's specification* at page 1, lines 8-9. Appellant discovered that lyocell fiber, when blended with polyester filling, provides a non-woven material with superior characteristics. *See, e.g., Id.* at page 2, lines 2-3 ("improved breathability") and 13-14 ("improved thermal characteristic [*sic*]"), and page 7, lines 1-10 (enumerating advantages).

The independent claims highlight the various forms where such properties would be useful: a padding, a stuffing, or a filling (Claim 1), "fibreballs" (Claim 11), and wadding (Claim 12). The dependent claims highlight certain desirable features as well.

Independent Claim 1 recites:

An insulating material comprising a non-woven blend comprising a polyester filling fibre and a lyocell fibre, the material formed into a form selected from the group consisting of a padding, a stuffing, and a filling.

This can be mapped to the specification at page 2, lines 9-18, page 3, lines 18-22, and page 9 (originally presented (now cancelled) claim 13).

Independent Claim 11 recites:

Fibreballs comprising a non-woven blend comprising a polyester filling fibre and a lyocell fibre.

This can be mapped to the specification at page 3, lines 7-10.

Independent Claim 12 recites:

A wadding comprising a carded and layered non-woven blend comprising a polyester filling fibre and a cellulosic lyocell fibre.

This can be mapped to the specification at page 3, lines 11-14.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 4-7 and 10 are properly rejected under 35 USC §112, second paragraph, as lacking antecedent basis for reciting "the cellulosic fibre."

Whether Claims 1, 4-8, and 10 are properly rejected under 35 USC §103 as obvious over GB 1,370,296 ("the Pedler reference") in view of US Patent No. 5,725,821 ("the Gannon reference").

Whether Claims 2 and 9 are properly rejected under 35 USC §103 as obvious over the Pedler reference in view of the Gannon reference, further in view of US Patent No. 5,023,131 ("the Kwok reference").

Whether Claim 11 is properly rejected under 35 USC §103 as obvious over US Patent No. 4,992,327 ("the Donovan reference") in view of the Gannon reference.

Whether Claim 12 is properly rejected under 35 USC §103 as obvious over the Kwok reference in view of the Gannon reference.

7. ARGUMENT

A. *Whether Claims 4-7 and 10 are properly rejected under 35 USC §112, second paragraph, as lacking antecedent basis for reciting "the cellulosic fibre."*

Claims 4-7, and 10 depend from Claim 1, which recites "a lyocell fibre." Lyocell is a cellulosic fiber. *See, e.g., Appellant's specification* at page 2, lines 6, 11, 18, 21, and 21. The MPEP §2173.05(e) provides that "[i]f the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite" *Id.* (emphasis added). In the rejected claims, there are no other components to which "the cellulosic fiber" could refer other than lyocell. Thus, the scope is readily ascertainable, and rejection on these grounds is improper.

B. *Whether Claims 1, 4-8, and 10 are properly rejected under 35 USC §103 as obvious over the Pedler reference in view of the Gannon reference.*

a) Claim 1

Claim 1 recites "An insulating material comprising a non-woven blend comprising a polyester filling fibre and a lyocell fibre, the material formed into a form selected from the group consisting of a padding, a stuffing, and a filling."

As mentioned above, in the search for an insulating material that was more breathable than polyester fiber, Appellant discovered that lyocell fiber, when blended with polyester filling, provides a non-woven material with improved breathability and thermal characteristics. *See, e.g., Appellant's specification* at page 2, lines 2-3 and 13-14. **In the specification, Appellant stated that this was surprising because** "lyocell fibres are traditionally flat and would not have been expected to be a good filling fibre." *Id.* at page 2, lines 4-5. More subjectively, the blend of polyester filling fiber and a lyocell fiber was also found by Appellant to have "a more down like feel." *Id.* at page 4, line 5.

In the Final rejection dated July 28, 2005, the Examiner applied a combination of the

Pedler reference and the Gannon reference to Claim 1. The combination was improper.

The MPEP specifically warns Examiners that "[t]he Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references." MPEP §2145.C. In the present case, the Examiner's reason for combining the references is not supportable. While a motivation sufficient to establish a *prima facie* case of obviousness does not have to be for the same *reason* to make the claimed invention, Appellant submits that it cannot be *contradicted by the references*.

The Examiner's position is that the Gannon reference teaches that lyocell has more tenacity than rayon, and hence one would substitute lyocell for rayon in the Pedler reference. However, this is actually *not supported by the Gannon reference*, as it states that "Reducing the D.P. [degree of polymerization] of the cellulose [in the Gannon reference's method] used in the manufacture of lyocell fibres generally **corresponds to a reduction in fibre tenacity**." *Id.* at col. 2, lines 30-32; emphasis added.¹ *If the Gannon reference's lyocell exhibits decreased tenacity, what motivation could there be for one skilled in the art to use it to replace rayon under the Examiner's reasoning?*

Perhaps lyocell generally is stronger than rayon, but the Gannon reference seeks to reduce strength either through reducing the degree of polymerization or increasing fibrillation, and so in this case, the secondary reference contradicts the Examiner's rationale for combination. As such, the Examiner's rejection fails to establish the required *prima facie* showing of obviousness, and was therefore improper.

b) Claims 4-7

The Examiner admits that none of the ranges in Claims 4-7 are taught. *Final Office*

¹ *Cf.* "Higher temperatures and longer times of treatment generally tend to produce greater degrees of fibrillation. Lyocell fibre appears to be particularly sensitive to such abrasion and is consequently often found to be more susceptible to fibrillation than other types of cellulose fibre." *The Gannon Reference*, col. 1, lines 37-41.

Action dated July 28, 2005 at page 4, lines 16-20. The Examiner maintains that the ranges are obvious as optimizations. *Id.* at page 5, lines 1-13. The MPEP provides that "[a] particular parameter must first be recognized as a result-effective variable, *i.e.*, a variable which **achieves a recognized result**, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation." MPEP §2144.05. The Examiner proposes that the property of the result-effective variable is optimal loft. *Final Office Action dated July 28, 2005* at page 5, line 12; emphasis added. However, the Appellant's specification taught that the success of the presently claimed blend **was surprising** because "lyocell fibres are traditionally flat and **would not have been expected to be a good filling fibre.**" *Appellant's specification* at page 2, lines 4-5; emphasis added. As the Gannon reference appears to be completely silent about "loft," the result cannot be predictable or recognizable without hindsight. Appellant submits that the Examiner has not properly supported this rejection either.

c) Claim 8

Claim 8 enjoys the limitations of claim 1, described above, with the added limitation that "the polyester filling fibre comprises monofibres which are crimped or conjugate fibres." For the reason discussed above, the combination of the Pedler reference and the Gannon reference are defective, and thus no *prima facie* case of obviousness has been established for this claim.

d) Claim 10

The Examiner's assertion that "saw-tooth crimping is the most common form of crimped fibers" is improper. *Final Office Action dated July 28, 2005* at page 3, lines 18-19. The MPEP provides that it is not appropriate for the examiner to take official notice of facts "without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known." MPEP §2144.03 (*see also, id.*, "Ordinarily, there must be some form of evidence in the record to support an

assertion of common knowledge"). Therefore, no *prima facie* case of obviousness has been established for this claim.

C. *Whether Claims 2 and 9 are properly rejected under 35 USC §103 as obvious over the Pedler reference in view of the Gannon reference, further in view of the Kwok reference.*

a) Claim 2

Referring to Section B, *above*, the Pedler reference and the Gannon reference lack permissible motivation to be combined. In rejecting claim 2, the Examiner added the Kwok reference to supply a polyethyleneterephthalate fiber, but the Kwok reference fails to disclose that limitation, providing instead a batt having a specific type of copolymer that includes ethyleneterephthalate. See *The Kwok Reference's Summary of the Invention* ("the present invention provides a thermofusible blend of fibers including a uniform mixture of 75-85 weight percent cotton and 15-25 weight percent ethylene terephthalate/isophthalate copolyester comprising 60-80 mole percent terephthalate and 20-40 mole percent isophthalate and having a melting point of about 230° to 340° F" (emphasis added)).

Appellant submits that the Kwok reference carefully selected the copolyester for certain attributes, and question the support for the Examiner's position that it suggests a polyethyleneterephthalate fiber. The Kwok reference has performance criteria that "[f]ibers made from this copolyester serve as thermal binder fibers and *must exhibit melting points below the temperature at which cotton is discolored and must, also, exhibit a melt adhesion to cotton staple.*" *Id.* at col. 2, lines 27-31. The Examiner has not demonstrated that polyethyleneterephthalate fiber can satisfy this requirement, and thus the limitation has not been shown to be met by the mere existence of a copolymer.

Moreover, the Kwok reference is not readily combinable with either the Pedler or Gannon references without impermissible picking and choosing. For example, the Kwok

reference provides that the cotton can be: "scoured or not and bleached or raw. For the purposes of this invention, cotton can also mean wood pulp and regenerated cellulose such as rayon." *Id.* at col. 2, lines 16-19. In contrast, a relevant passage from the Pedler reference is produced below:

It has been found to be advantageous to make a non-woven fibrous material pad for use as padding or insulation in upholstery or clothing, **from synthetic fibres rather than from natural fibres**, such as coir, since synthetic fibres tend to be **more regular in size** and shape than natural fibres and therefore wear more evenly and do not agglomerate, as may be the case with natural fibres. Additionally, synthetic fibres are **cleaner** than natural fibres and it may also be **more economical** to use synthetic fibres, due to fluctuations in price and availability of natural fibres from time to time.

Preferably, therefore, the non-woven fibrous material according to the invention comprises a suitable man-made or synthetic fibre, such as, for example, polyester, acrylic, modacrylic, triacetate or rayon fibre or may compromise a mixture of said fibres ...

The Pedler reference at page 2, lines 26-47 (emphasis added). Thus, the *unscoured* cotton and the *raw* cotton *teach away* from the combination. While the Examiner is technically correct that a polyester and rayon blend can be established under that disclosure, she fails to look at the reference's teachings *as a whole* when she improperly ignores the significant teaching in the Pedler reference that "natural" fibers, **presumably including untreated cotton**, are **not advantageous** for reasons of regularity, cleanliness, and economy.

Similarly, the Examiner has failed to provide convincing reasoning for replacing the rayon of the Pedler reference or the Kwok reference with the lyocell of the Gannon reference. For example, given the specific teaching of the Gannon reference that its lyocell experiences **a reduction in fibre tenacity**, the Examiner's proposed motivation is contradicted by the reference. *See the Gannon Reference* at col. 2, lines 30-32. Likewise, the Gannon reference notes that:

Higher temperatures and longer times of treatment generally tend to produce greater degrees of fibrillation. Lyocell fibre appears to be particularly sensitive to such abrasion and is consequently often found to be more susceptible to fibrillation than other types of cellulose fibre.

Id. at col. 1, lines 37-41. If higher temperatures break down fiber structure of lyocell

(fibrillation), then substituting lyocell for rayon under the conditions of the Kwok reference, to wit, heating at 230° to 390° F (col. 1, line 65), would not be undertaken by one seeking to increase strength as the Examiner has proposed.

Thus, the Examiner's motivation to combine is contradicted by the references, and therefore, no *prima facie* case of obviousness has been established for this claim.

b) Claim 9

Claim 9 is improperly rejected for many of the reasons of Claim 2, above, but is also improper because "conjugate fibres" is a defined term in the Appellant's specification. *Id.* at page 3, lines 3-5 ("By conjugate fibres is meant fibres comprising two different fibre-forming polymeric units arranged side by side so that on heat treatment the fibre becomes spirally crimped"). The Examiner fails to point out where in the Kwok reference that spirally crimped fibers are found, or that such would be the result upon heating. Therefore, no *prima facie* case of obviousness has been established for this claim.

D. *Whether Claim 11 is properly rejected under 35 USC §103 as obvious over the Donovan reference in view of the Gannon reference.*

Claim 12 provides "[f]ibreballs comprising a non-woven blend comprising a polyester filling fibre and a lyocell fibre." The Examiner has provided a synthetic down cluster under the Donovan reference that has specific characteristics for density. *Id.* at col. 4, lines 35-38 ("comparable to the densities of natural down, i.e., of the order of less than 16 kg/m³ (1.0 lb/ft³) and typically about 8 kg/m³ (0.5 lb/ft³)."). While the Donovan reference does mention rayon once in the specification as part of a list of fibers, there is no mention of lyocell, and no teaching that lyocell will produce clusters with the desired density.

Appellant previously addressed the lack of support in the Gannon reference for the Examiner's proposed substitution of rayon with lyocell, as the Gannon reference teaches away from the increased strength rationale. As the secondary reference contradicts the

Examiner's rationale for combination, the Examiner's rejection fails to establish the required *prima facie* showing of obviousness. The rejection was improper.

E. *Whether Claim 12 is properly rejected under 35 USC §103 as obvious over the Kwok reference in view of the Gannon reference.*

Claim 12 provides "[a] wadding comprising a carded and layered non-woven blend comprising a polyester filling fibre and a cellulosic lyocell fibre." The Examiner has failed to provide convincing reasoning for replacing the Kwok reference's "cotton" with the lyocell of the Gannon reference, given the specific teaching of the Gannon reference that its lyocell experiences **a reduction in fibre tenacity**. *See the Gannon Reference* at col. 2, lines 30-32. Also, the Gannon reference notes that "[h]igher temperatures and longer times of treatment generally tend to produce greater degrees of fibrillation. Lyocell fibre appears to be particularly sensitive to such abrasion." *Id.* at col. 1, lines 37-40. If higher temperatures break down fiber structure of lyocell (fibrillation), then substituting lyocell for rayon under the conditions of the Kwok reference, to wit, heating at 230° to 390° F (col. 1, line 65), would not be undertaken by one seeking to increase strength as the Examiner has proposed. Thus, the Examiner's motivation to combine is contradicted by the references. As the Examiner has failed to provide a valid motivation to combine the references, no *prima facie* case of obviousness has been established for this claim.

8. CLAIMS APPENDIX

1. (Rejected and On Appeal) An insulating material comprising a non-woven blend comprising a polyester filling fibre and a lyocell fibre, the material formed into a form selected from the group consisting of a padding, a stuffing, and a filling.
2. (Rejected and On Appeal) The non-woven blend of claim 1 wherein the polyester filling fibre is a polyethyleneterephthalate fibre.
3. (Canceled).
4. (Rejected and On Appeal) The non-woven blend of claim 1 comprising, by weight, no more than 80% of the cellulosic fibre.
5. (Rejected and On Appeal) The non-woven blend of claim 1 wherein the cellulosic fibre is present in an amount, by weight, of from 10-60% of the blend.
6. (Rejected and On Appeal) The non-woven blend of claim 1 wherein the cellulosic fibre is present in an amount, by weight, of from 20-60% of the blend.
7. (Rejected and On Appeal) The non-woven blend of claim 1 wherein the cellulosic fibre is present in an amount, by weight, of from 25-60% of the blend.
8. (Rejected and On Appeal) The non-woven blend of claim 1 wherein the polyester filling fibre comprises monofibres which are crimped or conjugate fibres.
9. (Rejected and On Appeal) The non-woven blend of claim 1 wherein the polyester filling fibre comprises conjugate fibre.
10. (Rejected and On Appeal) The non-woven blend of claim 1 wherein the cellulosic fibre is a saw-toothed crimp fibre.

11. (Rejected and On Appeal) Fibreballs comprising a non-woven blend comprising a polyester filling fibre and a lyocell fibre.
12. (Rejected and On Appeal) A wadding comprising a carded and layered non-woven blend comprising a polyester filling fibre and a cellulosic lyocell fibre.
13. – 17. (Canceled).

9. EVIDENCE APPENDIX

None.

10. RELATED PROCEEDINGS APPENDIX

None.

11. SIGNATURE PAGE

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